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With the increased understanding of PTSD, there are many ways to approach a PTSD case, one of which can involve the use of the six principles of Naturopathic Medicine. This approach uses a variety of modalities as part of an effective treatment plan. It will take into account the individuality of each case as well as constitute a holistic approach to each presenting PTSD patient. This thesis/poster aims to link the six principles of Naturopathic Medicine to aspects of PTSD that allows for us to understand and potentially treat PTSD.

In conducting research for this thesis/Poster, searches for relevant terms and phrases were conducted using Google, Google Scholar, and PubMed. Search Terms used include “PTSD and herbal treatments” “Biomarkers of PTSD” “PTSD and Amino Acids” “PTSD alternative treatment” “CBT and PTSD” “EFT and PTSD” “EMDR and PTSD” “Craniosacral Therapy”, “CST and ANS”, “PTSD and Horticulture Therapy” “PTSD and Acupuncture” “PTSD Treatments” “Risk Factors for PTSD” “Neurobiology of PTSD” “Brain involvement in PTSD” “PTSD and Homeopathy”

In addition, several Health Care Practitioners were consulted in regards to therapies used by themselves or others that they know who have treated patients with PTSD and found it helpful. These treatment therapies were then searched for research articles relating to how they can be used for or how they have been used for the treatment of PTSD. Books written about the healing of trauma and PTSD were used to help gain more information and as cross references. Journal updates from the National Center for PTSD were also utilized as a source for information and research articles on present and upcoming/emerging treatment modalities utilized in the Veteran Affairs Hospitals.

DSM V Diagnostic Criteria <sup>(1)</sup>	
<b>A. Stressor:</b> - Need 1 of 4	<ol style="list-style-type: none"> <li>1. Direct Exposure</li> <li>2. Witnessing</li> <li>3. Indirectly, by learning a close relative or friend was exposed</li> <li>4. Repeated/extreme indirect exposure in the course of professional job (not through media)</li> </ol>
<b>B. Intrusion symptoms:</b> - Need 1 of 5:	<ol style="list-style-type: none"> <li>1. Recurrent, intrusive memories</li> <li>2. Traumatic nightmares</li> <li>3. Flashbacks</li> <li>4. Intense/prolonged distress after exposure</li> <li>5. Physiologic reactivity upon exposure to cues</li> </ol>
<b>C. Persistent effortless avoidance of distressing trauma-related stimuli:</b> - - Need 1 of 2:	<ol style="list-style-type: none"> <li>1. Trauma-related thoughts/feelings</li> <li>2. Trauma-related external reminders</li> </ol>
<b>D. Negative cognitions/mood:</b> - Need 2 of 7:	<ol style="list-style-type: none"> <li>1. Inability to recall key features of the trauma</li> <li>2. Negative beliefs about oneself, the world</li> <li>3. Distorted blame of self, others</li> <li>4. Persistent negative trauma-related emotions</li> <li>5. Diminished interest</li> <li>6. Feeling alienated, detachment/estrangement</li> <li>7. Constricted affect</li> </ol>
<b>E. Alterations in arousal and reactivity:</b> - Need 2 of 6:	<ol style="list-style-type: none"> <li>1. Irritable or aggressive behavior</li> <li>2. Self-destructive/reckless behavior</li> <li>3. Hypervigilance</li> <li>4. Exaggerated startle response</li> <li>5. Problems in concentration</li> <li>6. Sleep disturbance</li> </ol>
<b>F. Duration of the disturbance (Criteria B, C, D, and E) is more than 1 month</b>	
<b>G. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning</b>	
<b>H. The disturbance is not attributable to the physiological effects if substance (e.g. medication, alcohol) or another medical condition.</b>	

Risk Factors for PTSD (2+18)	
<b>Neurochemical Risk Factors</b>	<p>Increased dopamine,  Increased norepinephrine,  Decreased concentrations of 5HT,  Decreased GABA activity,  Increased glutamate,  Decreased plasma Neuropeptide Y concentrations and  Increased CSF b-endorphin levels</p>
<b>Neuroanatomic Risk Factors</b>	<p>Reduced volume and activity of the hippocampus,  Increased activity of amygdala, and reduced prefrontal volume  Reduced anterior cingulate volume  Decreased medial prefrontal activation of the cortex</p>
<b>Genetic Risk Factors</b>	<p>Excess of the SLC6A39 repeat allele  SNPs of the FKBP5 gene  Retinoid-related orphan receptor alpha (RORA) gene  ADCY8 gene  DPP6  SNP in ADCYAP1R1 (females only)</p>
<b>Nutritional Deficiency Risk Factors</b>	<p>Amino Acids  Vitamins and Minerals  Essential Fatty Acids  DHEA  SHTP</p>
<b>Other Risk Factors</b>	<p>Previous/multiple exposure to traumatic events  Traumatic Brain Injury  Environmental Toxicity  Pro-inflammatory Conditions  Autoimmunity/compromised immune system</p>
Six Principles of Naturopathic Medicine	
<b>First Do No Harm (Primum Non Nocere)</b>	<ul style="list-style-type: none"> <li>- Least Invasive technique</li> <li>- Select treatment modality with least side effects</li> <li>- Social and Family based treatments, Behavioral therapy, Imagery-Based treatment, power therapies, Horticulture therapy, creative, artistic and expressive therapies, EFT, EMDR, Acupuncture, Homeopathy</li> </ul>
<b>Doctor as Teacher (Docere)</b>	<ul style="list-style-type: none"> <li>- Educate the Patient</li> <li>- Educate the Family</li> <li>- Educate the At-Risk Populations</li> </ul>
<b>Identify and Treat the Cause (Tolle Causam)</b>	<ul style="list-style-type: none"> <li>- Identify and Address Risk Factors</li> <li>- Imbalances of the ANS/Stuck in the "Fight or flight State"</li> <li>- Nutritional Support, Herbal Medicine, CST, meditation, Yoga, Biofeedback, Exercise, Acupuncture</li> </ul>
<b>Healing Power of Nature (Vis Medicatrix Naturae)</b>	<ul style="list-style-type: none"> <li>- Provide the body with the necessary nutritional, mental, emotional and physical support</li> <li>- Remove the toxins and stressors of the body</li> <li>- Allow the body time to heal</li> </ul>
<b>Treat the Whole Person (Tolle Totum)</b>	<ul style="list-style-type: none"> <li>- Concept of individuality</li> <li>- Comprehensive Intake/understanding the whole person</li> <li>- Get the full story of the Patient</li> </ul>
<b>Prevention (Praevenire)</b>	<ul style="list-style-type: none"> <li>- Address predisposing risk factors</li> <li>- Resiliency training for the At-risk population</li> <li>- Educating about stress management techniques</li> </ul>

Treatment modalities for PTSD (19-49)	
<b><u>Social and Family Based Treatment:</u></b>	Couple and Family Therapy Group Therapy Interpersonal Psychotherapy
<b><u>Behavioral Treatment:</u></b>	Behavioral Activation Cognitive Behavioral Therapy (CBT) Trauma Management Therapy Interceptive Exposure Mindfulness Yoga Acupuncture
<b><u>Imagery-Based Treatment:</u></b>	Imagery Rescripting Imagery Rehearsal Therapy Guided Imagery
<b><u>Therapies Focusing on Distress Tolerance</u></b>	Dialectical Behavior Therapy (DBT) Acceptance and Commitment Therapy (ACT)
<b><u>“Power” Therapies</u></b>	Thought Field Therapy Trauma Incident Reduction Visio Kinesthetic Dissociation
<b><u>Technological-based Treatment:</u></b>	Internet and Computer Based Treatment Virtual Reality Exposure Therapy
<b><u>Pharmacologic Treatments</u></b>	D-cycloserine Propranolol Ketamine Prazosin MDMA Fluoxetine Fluvoxamine Citalopram Paroxetine Escitalopram
<b><u>Other Treatment Options not previously classified/listed:</u></b>	Meditation Emotional Freedom Technique (EFT) Eye Movement Desensitization and Reprocessing (EMDR) Aromatherapy Herbal Medicine Homeopathy Flower Essence Nutritional Support Horticulture Therapy Hydrotherapy Art Therapy Resiliency Training Exercise Spirituality Craniosacral Therapy (CST)

As Naturopathic Doctors, we can utilize multiple treatment options from our tool kit and gain training in other modalities to help support our patients with PTSD. We have the opportunity to treat each person individually as opposed to simply treating the condition of PTSD. The six basic principles of Naturopathic Medicine can help to guide us to a better understanding of PTSD. As a result, we can formulate a treatment plan including multiple treatment options available to provide a professional, personalized patient driven and proactive care for our patients with PTSD. Analyzing the six principles of Naturopathic Medicine to understand and treat PTSD shows that there are overlaps in treatment modalities to provide the best and most effective treatment for our patients.

It is important to take the whole person into account, and acknowledge that each case will be different. Naturopathic Doctors work to involve the patient in the process of diagnosis and treatment. This is even more important when treating PTSD because of the resiliency that comes out of empowering the patients and its effectiveness in making the treatment effective. Educating ourselves as Naturopathic Doctors as to various approaches to understanding and treating a patient with PTSD will not only make us more effective and efficient in treating our patients, but also make us overall better Doctors and Human Beings. A simple reflection back to our principles of Naturopathic Medicine can help us to diversify our treatment plan for PTSD. This can act as a reminder that the same approach with our principles can be applied to other health conditions our patients may present in office with.

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